Effect of Literacy in Influencing PLIK Success in Bambanglipuro

Pengaruh Literasi dalam Mendukung Kesuksesan PLIK di Bambanglipuro

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INFORMATION ARTICLE

ABSTRAK

Adopsi penggunaan telecenter dalam program Kewajiban Pelayanan Universal/Universal Service Obligation (KPU/USO) yang dilakukan oleh Kementerian Komunikasi dan Informatika cq Balai Penyedia dan Pengelola Pembiayaan Telekomunikasi dan Informatika (BP3TI) adalah Pusat Layanan Internet Kecamatan (PLIK). Kesuksesan PLIK dalam masyarakat tidak hanya bergantung dari penyediaan infrastruktur saja, namun dipengaruhi juga oleh tingkat literasi masyarakat disekitarnya. Sehingga penelitian kali ini bertujuan untuk mengetahui pengaruh literasi dalam mempengaruhi kesuksesan PLIK, khususnya pada PLIK Bambanglipuro. Penelitian ini dilakukan dengan menyebarkan kuesioner kepada para pengguna PLIK Bambanglipuro dengan metode accidental sampling. Hasil penelitian ini membuktikan bahwa tingkat literasi pengguna PLIK terbukti secara signifikan mampu mempengaruhi kesuksesan PLIK.

ABSTRACT

Adoption of telecenter as implementation of the Universal Service Obligation (USO) programs by Ministry of Communication dan Information Technology was District Internet Service Center known as PLIK. PLIK succes was not relied only on infastructure availability but also influenced by community literacy level. Therefore, this research aimed to determind the effect of literacy in influencing the PLIK success, particularly at PLIK Bambanglipuro. The research was conducted by distributing questionnaires to PLIK Bambanglipuro users using accidental sampling method. This research indicated that the community literacy level was significanty affecting PLIK success.

1. Introcduction

Differences in the distribution of access to the Internet has led to a digital divide between people who have access to computers and the Internet compared to those without (Harris, 2001). To overcome the digital divide, the government is committed to implement the program of Kewajiban Pelayanan Universal/Universal Service Obligation (KPU/USO) which is implemented by the Ministry of Communication and Informatics cq Center of Telecommunication and Informatics Provision and Funding Management (BP3TI). During the implementation of the KPU/USO conducted by BP3TI only focus on the provision of infrastructure. It is not appropriate because, according to Harris (2001) the provision of access to infrastructure alone is not enough to eliminate the existing digital divide.

Infrastructure development program undertaken by BP3TI in the implementation of the KPU/USO should consider other factors that the infrastructure provided can be beneficial and reduce the existing digital divide. Programs that have proven successful in reducing the digital divide is telecenter development (Harris 2001; Heeks, 2008). The use of telecenter program in KPU/USO can be seen in the construction of the District Internet Service Center (PLIK) or (Mobile-District Internet Service Center) M-PLIK.

PLIK optimization became a concern of the Ministry of Communications and Informatics, one of them by way of giving an award in the event of USO award. The awarding of the USO award in 2013 which took place in London elected PLIK Bambanglipuro as one of the winners in the category of PLIK appreciation.

USO awad win of PLIK Bambanglipuro shows that PLIK Bambanglipuro is one PLIK deemed successful by the Ministry of Communications and Informatics. PLIK Bambanglipuro success has made PLIK Bambanglipuro a choice in determining the object of research.

PLIK success, especially PLIK Bambanglipuro, of course not only influenced by the availability of infrastructure, but also depends on the level of literacy of the community. Without adequate knowledge and literacy, the available infrastructure will not be used by the surrounding community. This lead to the question of how far literacy can influence the success of PLIK.

To answer the questions that arise, this research was conducted to determine the effect of literacy on the success of PLIK. By knowing the effect of level of literacy in the success of PLIK, it is expected to be an input, especially for the Ministry of Communication and Informatics cq BP3TI in formulating KPU/USO policies so KPU/USO can be utilized not merely for the provision of infrastructure.

2. Desktop Study

Telecenter is generally defined as a place that provides shared public access in the form of communications and information technology to meet educational, social, economic, personal and entertainment needs in the society (Fuchs, 1998; Harris 1999; Proenza, 2001; Kumar and Best, 2007). Telecenter has an important role in all aspects where the telecenter is able to have a positive impact in terms of economic, political, and social life of communities in rural areas (Bashir et al., 2011). Although telecenter has become the most popular efforts to provide computers and internet access for the society, especially on a non-profit basis, telecenter success is not a guarantee (Braund and Schwittay, 2006). This makes the success of telecentres be an interesting topic to be researched.

Telecenter success has no standard definition. Telecenter success according to O'Neil (2002) identified from the effects and benefits of telecenters, namely rekindled the sense of community, increases social capital, empowers members of the community, promotes democracy, and provides economic opportunities. Whereas, according to Bashir et al. (2011), the success of telecentres assessed on the ability to meet the needs of the society, empower individuals, and provide better economic opportunities. Telecenter success can also be measured from the effect caused by the telecenter in improving the lives of rural communities (Zamani-Miandashti et al., 2014).

From the various definitions of success of the telecenter, the definition of telecenter success in this research is adapted to the KPU/USO program that has been done by BP3TI, namely the PLIK program especially in the Bambanglipuro region. So that success of PLIK Bambanglipuro is defined as the change of village life caused by the PLIK Bambanglipuro.

Telecenter success could not have been achieved without supporting factors. Supporting factors such as the level of literacy has a very important role in the use of ICT, especially for rural areas. Ngwenyama et al. (2006) argues that people are not able to access and take advantage of other sources of information online without adequate education. Although the computer and internet service is provided free of charge, the service will not be useful for those who do not have the ICT literacy (Lee, 2001). So the low level of literacy is considered as an obstacle to the achievement of telecenters in developing countries (Bailey and Ngwenyama, 2009).

Literacy is a key factor that affects the inequality of telecenters access in developing countries (Bailur, 2006). In the terms of reference concept of telecenter success proposed by Bailey and Ngwenyama (2009), literacy is one of the keys that affect the success of telecenters. Empirically, literacy has a significant correlation to the impact of telecenters on people's lives in Iran (Zamani-Miandashti et al., 2014). The absence of a literacy (illiteracy) is a barrier of ICT usage at telecentres in Nepal, especially in acquiring

knowledge (Kharki, 2011). If the use of telecenters theoretically directly affect the success of telecentres (Bailey and Ngwenyama, 2009), the absence of literacy can be considered as a barrier of telecenter success.

Literacy used by Miandashti-Zamani et al., (2014) was adopted from Oliver research and Towers (2000). The definition of ICT literacy by Oliver and Towers (2000) is a set of skills and understanding required by a person to be able to use ICT according to their needs. So that literacy in this study is defined as the ability (skills) of PLIK Bambanglipuro users to operate the ICT devices, especially computers.

3. Methods

The research on influence of literacy in supporting the success of PLIK is using a quantitative approach. The primary data used is the result of a questionnaire distributed to the users of PLIK Bambanglipuro.

Questionnaires distributed using accidental sampling method. Accidental sampling method has been chosen because the obscurity of the sampling frame of all users of PLIK Bambanglipuro, so the method that can be used is limited only to the non-probability sampling method. The accidental sampling method has the advantages of a practical and easy nature to select respondents. Disadvantages of this accidental sampling method is it not be generalized (Boxill, 1997).

Data were collected starting on 23 June 2014 to 4 July 2014 at the location of PLIK Bambanglipuro. Data collected by distributing questionnaires in total amounted to 50 questionnaire. Although the questionnaire distributed was retreived, not all questionnaires were used. Of the 50 questionnaires distributed, only 42 questionnaires that can be used as 8 questionnaire was not filled completely so that it had been not included in the analysis.

Questionnaires distributed consists of two parts, the characteristics of respondents and the measurement of success of PLIK and the level of literacy of users. The questionnaire used to measure the success of PLIK using the Likert scale with intervals of 1 to 5, namely Strongly Disagree (STS), Disagree (TS), Undecided (R), Agree (S), and Strongly Agree (SS). To measure the level of literacy of ICT users, the Likert scale of 1 to 5 was used. Measured ranging from Extremely Incapable (STM), Incapable (TM), Less Capable (KM), Capable (M), and Highly Capable (SM).

The method of analysis used is using SPSS software with regression method. Thus obtained regression equation as follows:

$$\text{PLIK success} = k + a.\text{ICT Literacy} .... (1)$$

Validity and reliability testing needs to be done before the analysis is done. Tests conducted to determine the validity of the instrument's ability to measure what should be measured. Whereas the reliability testing is used to measure the consistency of the measuring instrument in measuring a concept or it can also be used to measure the consistency of the respondents in answering the questions in the questionnaire items (Jogiyanto, 2009).

Table 1. Validity and Reliability

Code	Validity (sig. for p>.05)		Cronbach Alfa
	r-stat	Concl.	
S1	0.452	Valid	0.757
S2	0.506	Valid	
S3	0.349	Valid	
S4	0.394	Valid	
S5	0.402	Valid	
S6	0.58	Valid	
S7	0.442	Valid	

Code	Validity (sig. for p>.05)		Cronbach Alfa
	r-stat	Concl.	
LK1	0.48	Valid	0.926
LK2	0.76	Valid	
LK3	0.529	Valid	
LK4	0.49	Valid	
LK5	0.648	Valid	
LK6	0.742	Valid	
LK7	0.758	Valid	
LK8	0.646	Valid	
LK9	0.626	Valid	
LK10	0.749	Valid	
LK11	0.799	Valid	
LK12	0.612	Valid	
LK13	0.694	Valid	
LK14	0.634	Valid	
LK15	0.736	Valid	

Results of validity and reliability testing of the instrument can be seen in Table 1. Validity testing performed using Product Moment Pearson correlation method. Indicators rated valid when r-calculated is greater than or equal to r-table (Wijaya, 2009). From the results in Table 1 it can be seen that all the instruments have met validity criteria so declared valid because the value r-calculated on the corrected item-total correlation is smaller than the r-table. Results of reliability testing in Table 1 also shows that all the instruments are reliable because the alpha cronbach values are above the admission limit of 0.6 (DeVellis, 2003).

4. Results and Discussion

Distribution of questionnaires that have been conducted and tabulated have obtained characteristics of the respondents as shown in Table 2. The results of data processing by using regression produce data as shown in Table 3, Table 4 and Table 5.

Table 2. Respondens characteristics

Characteristics	Count (%)
Sex	
Men	45.2
Women	54.8
Age	
≤ 15	33.4
16-20	52.4
21-25	11.9
26-30	2.4
≥ 31	0
Education	
Elementary School	19
Junior High School	21.4
Senior High School	59.5
Diploma	0
Bachelor/Post Gaduate	0
Occupation	
Student	71.4
College Student	14.3

Characteristics	Count (%)
Civil Servant	0
Merchant/Farmer	0
Entrepreneur/SMEs	11.9
Others	2.4

Table 3. Coeficient testing of each variabels

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.835	.452		8.485	.000		
	LK	.148	.099	.230	1.694	.098	1.000	1.000

a. Dependent Variable: S

Table 4. Analysis of varian model

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.236	1	.236	2.839	.098[a]
	Residual	4.212	40	.105		
	Total	4.448	41			

a. Predictors: (Constant), LK

b. Dependent Variable: S

Table 5. Model testing summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.230[a]	.053	.029	.32451

a. Predictors: (Constant), LK

The regression results obtained from the processing of primary data shows absence of multicollinearity. It is known from the measurement value of VIF (Varian Inflation Factor) which is valued less than 10 (Stagliano, 2004).

Model-fit is observed by looking at the F value, the t value and the R2value. F value test is required to determine the effect of independent variables together against dependent variable (Wijaya, 2009). Testing of the F value obtained in Table 4, it is known that F value is significant for $p < 0.1$.

In addition to the F value, testing of the t value is also required. t value test is used to determine whether the regression model, partially independent variables affect the dependent variable (Wijaya, 2009). Testing the t value in Table 3 shows that the ICT Literacy variable (LK) significantly affect the PLIK success variable (S) with $p < 0.1$.

After testing the F and t values, coefficient of determination (R2) needs to be observed to see the magnitude of the role or contribution of independent variables in explaining its dependent variable (Wijaya, 2009). Of the R2 value indicated in Table 5, it is learned that the independent variable only explained the dependent variable by 5.3%. The role of external variables that are not mentioned in the model affected by 94.7%. Results of double regression testing that has been done resulted in the regression equation as shown below:

$$\text{Success of PLIK} = 3{,}835 + 0{,}148.\text{ICT Literacy} \ldots\ldots\ldots(2)$$

Regression test results indicate that the ICT Literacy, especially computers, can significantly affect the success of PLIK Bambanglipuro. This is consistent with previous research that has been done before (Bailey and Ngwenyama, 2009). Although ICT literacy is only able to give the effect of 14.8% in PLIK Bambanglipuro success, but literacy remains a factor to be taken into account in the subsequent KPU/USO program planning so that the infrastructure that has been established can be fully utilized by rural communities.

Table 6. Distribution of level of ICT literacy of PLIK Bambanglipuro users

Instrumen	Likert Scale (%)	
	4-5	1-3
Turn on the computer	97.6	2.4
Restart the computer when hanged/stopped working	85.7	14.3
Shutting down the computer safely (shut down)	97.6	2.4
Connect to the internet using a computer	90.5	9.5
Open a web page (such as google.co.id)	100	0
Forward/backward 1 page on opened website	92.9	7.1
Create a bookmark, and save your favorite web pages	78.6	21.4
Finding information required in the internet using search engines (like google, yahoo, ask, etc.)	97.6	2.4
Communicating via the Internet using email	88.1	11.9
Communicating via the Internet using instant massanger/chat (ym, GTalk, etc.)	78.6	21.4
Create, save, and copy files/folders in the computer	88.1	11.9
Create a document/file using the office (word, exel, powerpoint)	90.5	9.5
Print documents	78.6	21.4
Scan documents	66.7	33.3
Store and use the data from the flash disk	88.1	11.9

ICT literacy skills of the PLIK Bambanglipuro users are good enough. The majority of respondents were able to use the computer comfortably, either to turn on and turn off the computer, connect to the internet, surf to find the information needed, create bookmarks, communicate via the Internet (via email, social media, and instant messaging), to manage documents (excel, word and power point) as shown in Table 6. The high level of ICT literacy of PLIK Bambanglipuro users are probably since the majority of respondents, 52.4%, are teenagers aged 16 to 20 who are the digital generation that do not find it difficult to learn ICT. In additoin, considering the majority of users are students (71.4%) which has been introduced to ICT since the start of school, so it is not surprising if they master ICT literacy and visit PLIK Bambanglipuro more to utilize ICT infrastructure that they did not owned in their homes. So it can be said that the higher literacy of the users is, the higher the effects and benefits arising from PLIK in their lives (Zamani-Miandashti et al., 2014).

It's interesting to observe from the PLIK Bambanglipuro users that at low number of PLIK Bambanglipuro visitors who are in productive age. This is unfortunate, because it indicates that people in the productive age are less capable to utilize PLIK to improve their lives, especially in the economic sector. Efforts to increase PLIK users in the productive age certainly need to be considered so that PLIK able to have a positive economic value to rural communities around PLIK.

5. Summary

5.1. Conclusion

ICT literacy level proved to be significantly able to give a positive influence on the success of PLIK Bambanglipuro, ie by 14.8%. Nonetheless, the low value of the determination coefficient (5.3%) explained that many factors and other variables that can affect the success of PLIK Bambanglipuro in addition to the level of literacy.

ICT literacy level of PLIK Bambanglipuro users is quite high. The majority of PLIK Bambanglipuro users is dominated by student/college students who are the digital generation that did not experience difficulties in learning ICT.

5.2. Suggestion

If observed from the user's age, it can be seen that the PLIK Bambanglipuro users in the productive age are considerably low. The productive age users are the one that should be the market target of PLIK Bambanglipuro that the availability of access to ICT through PLIK especially in Bambanglipuro can provide an economical improvement in the welfare of rural communities.

An increase in PLIK users in the productive age can be done by training to increase ICT literacy for productive age so that they do not feel awkward in utilizing the infrastructure that has been provided in the KPU/USO program. In addition to training, coaching is also necessary to ensure the continued use and utilization of ICT facilities in PLIK Bambanglipuro.

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